# Intel® Entry Server Board S845WD1-E
## Essential Features for Entry-Level Server Applications

**intel.**

**Product Brief**

- ECC Memory Support
- Dual Intel® PRO/100+ Server Network Connections
- ATA/100 RAID
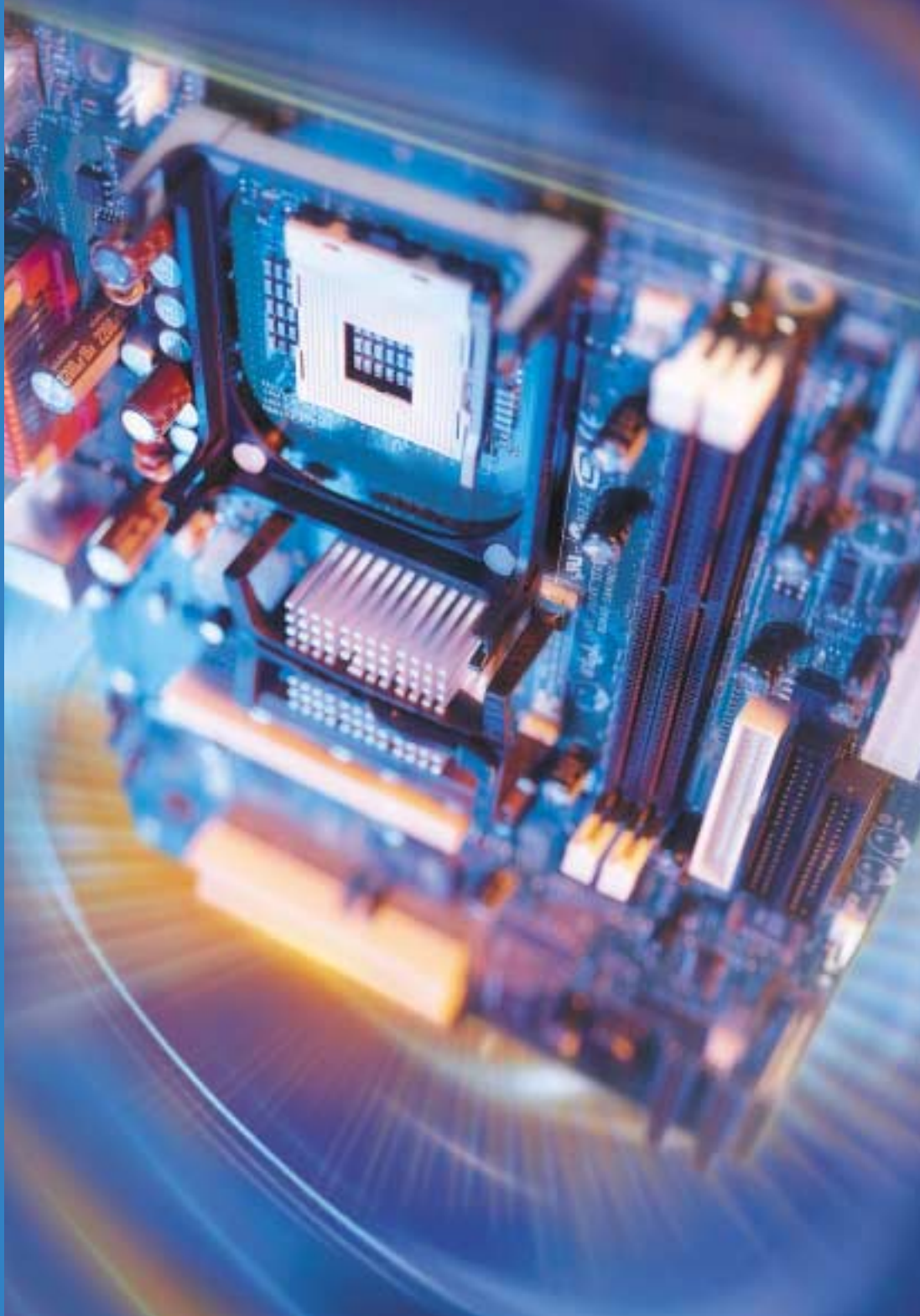
# Exceptional Quality and Value for e-Business

Business productivity is significantly influenced by server performance, availability, and scalability. This means businesses need a server-level system, especially when it comes to essential components such as the motherboard, if they are to accommodate multiple simultaneous users, perform intensive calculations, and protect critical data. To meet such requirements, Intel offers the Intel® Entry Server Board S845WD1-E.

## Delivers the Essentials

The Intel Entry Server Board S845WD1-E delivers essential features for entry-level server applications, such as 2GB Error-Correcting Code (ECC) DDR200/266 memory capacity, dual-channel ATA/100 RAID, and dual server Ethernet controllers. It supports one Intel® Pentium® 4 processor with either a 400MHz or 533MHz system bus and contains Server System Infrastructure (SSI) components for power, reliability, and flexibility. The 1U form factor version of the Server Board S845WD1-E includes a high-performance, active-fan heat sink to ensure reliable thermal performance in a qualified high-density chassis[1].
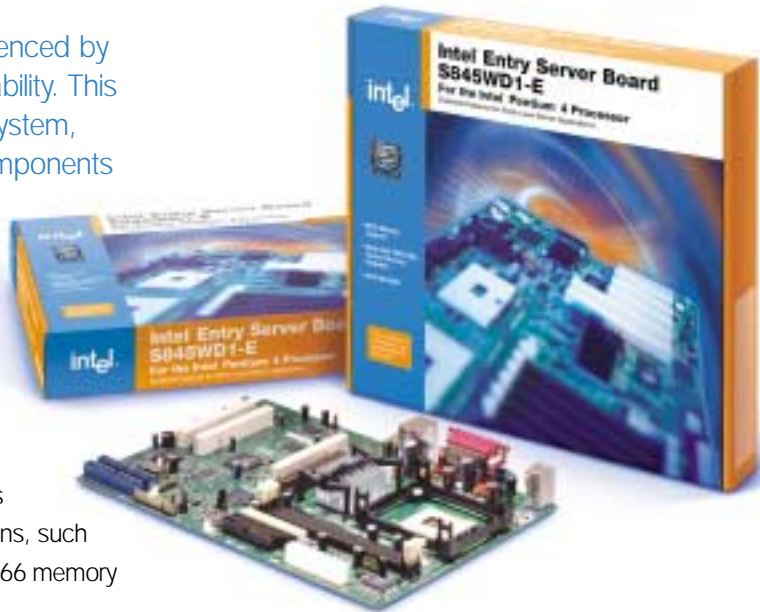
## Designed for Multiple General-Purpose and Appliance Applications

The Server Board S845WD1-E provides exceptional quality and value for entry-level pedestal and 1U high-density server solutions, such as the following:

- Web hosting
- Domain Name Server
- File and print
- Cache
- E-mail
- Firewall
- Proxy
- Virtual Private Network

| Features | Benefits |
|---|---|
| Supports one Intel Pentium 4 processor with 400MHz or 533MHz system bus and 512KB L2 cache | Excellent processing performance for entry-level server applications |
| Intel® 845E chipset[2] | Quality and reliability |
| Integrated dual-redundant Intel® PRO/100+ Server Network Connections | Teaming offers up to 200Mbps data transfer with network; redundancy offers fail-over insurance if one network connection becomes unusable |
| Three 32-bit/33MHz PCI slots (riser required for 1U and 2U form-factor systems) | Expansion flexibility |
| Supports up to 2 GB of ECC DDR200/266 memory with two DIMM sockets | Error-Correcting Code (ECC) improves availability and data integrity; 2GB capacity supports memory-demanding applications |
| Integrated ATA/100 RAID | Advanced data protection using ATA (IDE) hard drives |
| Integrated ATI Rage* XL video controller and AGP slot | High-quality video without a video adapter card, or AGP video with an AGP card |
| Management controller[3] and Intel® LANDesk® Client Manager software | Proactive monitoring and remote server management capability that helps to ensure maximum server availability |
| Active 1U-capable heat sink (optional) | Thermal performance to allow for the latest Intel® Pentium® 4 processor in a 1U chassis |
| Three-year limited warranty | Peace of mind |

[1] Please see the Intel® Entry Server Board S845WD1-E section of support.intel.com for a complete list of reference chassis.
[2] Intel® 845E chipset with Intel® ICH2.
[3] Usage of Intel® LANDesk® Client Manager software is dependent on operating system. See Intel LANDesk documentation for details.

# Intel® Entry Server Board S845WD1-E

Support for one Intel® Pentium® 4 processor
with 400MHz or 533MHz system bus

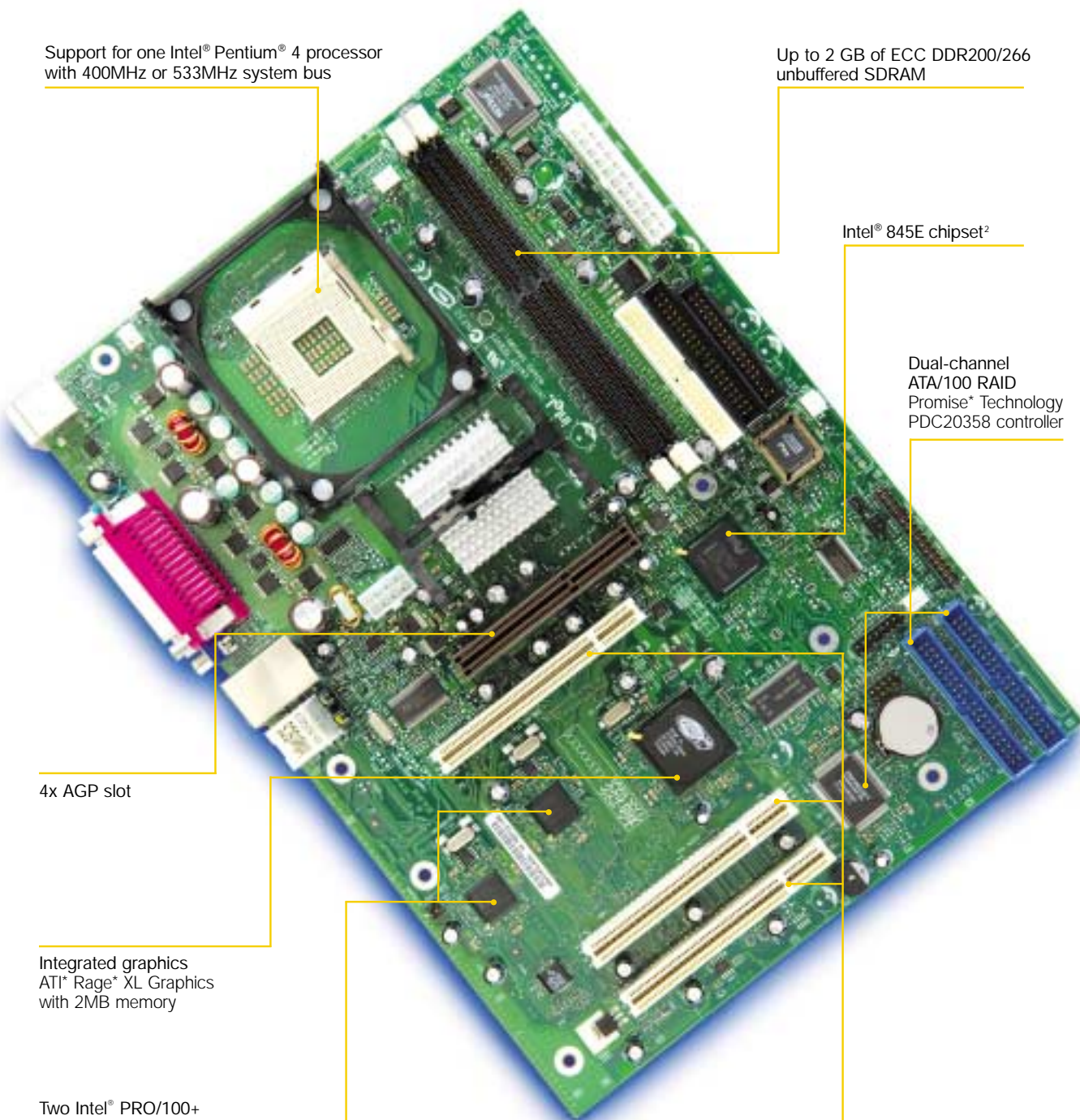Up to 2 GB of ECC DDR200/266
unbuffered SDRAM

Intel® 845E chipset[2]

Dual-channel
ATA/100 RAID
Promise* Technology
PDC20358 controller

4x AGP slot

Integrated graphics
ATI* Rage* XL Graphics
with 2MB memory

Two Intel® PRO/100+
Server Network Connections
Intel® 82550PM controllers

Three PCI slots

# The Boxed Intel® Entry Server Board S845WD1-E

## Included for easy integration:

1. One Intel Entry Server Board S845WD1-E

2. Quick Start User Guide

3. Resource CD-ROM with software utilities and technical product information

4. One floppy-drive cable

5. One ATA/66/100 hard-drive cable

6. Configuration label, stickers, and back-panel label

### Standard configuration (for 2U rack and pedestal systems) also includes:

7. ATX 2.01-compliant I/O shield

### 1U configuration (for 1U form-factor systems ONLY) also includes:

8. High-performance, 1U-capable active heat sink

# Build Value with Intel: Server Products, Programs, and Support

Intel is committed to providing industry-leading server building blocks, programs, and support services to help system integrators successfully compete in the evolving Internet economy. Get the high-value server solutions you need to succeed by taking advantage of the outstanding value Intel provides its system integrators:

- High-quality server building blocks
- Extensive breadth of server building blocks
- Solutions and tools to enable e-Business
- Comprehensive training services
- Worldwide 24x7 technical support
- World-class service, including a three-year limited warranty and Advanced Warranty Replacement

For more information on Intel's added-value server offerings, please visit: www.intel.com/go/serverbuilder

# Complete Your Intel® Entry Server Board S845WD1-E with Intel® Server Building Blocks

Add the following Intel building blocks to your Intel® Entry Server Board S845WD1-E to help ensure a highly reliable, available, and scalable server:
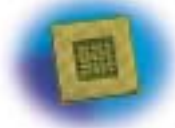


**Intel® Pentium® 4 Processors** are designed to deliver superior performance for demanding applications and environments.



**Intel® RAID Controllers** are designed to protect data, applications, and the server operating system from disk failures. Intel offers an affordable high-performance line of RAID products, which are tested and validated for easy integration with Intel server building blocks.



**Intel® PRO Server Adapters,** including Fast Ethernet and Gigabit Ethernet server adapters, help to reduce bottlenecks and improve availability with industry-leading performance and advanced server features.

## Additional Intel Server Building Blocks

Intel provides a broad family of processors, server boards, chassis, platforms, RAID controllers, server network adapters, and server management software from which to build powerful server-based solutions. For the latest information on Intel server building blocks, please visit: www.intel.com/go/serverbuilder



**Intel® Server Chassis SC5100** (base configuration) is a chassis designed for easy integration with the Server Board S845WD1-E. The pedestal or 5U form-factor server chassis delivers:

- Five 1-inch-high fixed-drive bays
- Three 5.25-inch peripheral bays
- 300W PFC power supply
- SSI-compliant front panel

The Server Chassis SC5100 comes with extensive international safety and EMC regulatory approvals and offers the added reliability, availability, and scalability that customers demand.

# Intel® Entry Server Board S845WD1-E Specifications

## Processor/Cache

| | |
|---|---|
| Processors Supported | Intel® Pentium® 4 processors with a 400MHz or 533MHz system bus and up to 512 KB of integrated L2 cache. For the latest processor support information visit: http://support.intel.com/support/motherboards/server |

## System Memory

| | |
|---|---|
| Memory Capacity | Two DIMM sockets for up to 2 GB (64MB to 1GB DIMMs supported) |
| Memory Type | ECC DDR200/266 unbuffered SDRAM 72-bit ECC, 184-pin gold-plated DIMMs |
| DIMM Sizes | 64 MB, 128 MB, 256 MB, 512 MB, 1 GB |
| Memory Voltage | 2.5V only |
| Error Detection | Corrects single-bit errors, detects double-bit errors (using ECC memory) |

## Integrated On Board

| | |
|---|---|
| Chipset | Intel® 845E chipset[2] |
| ATA/100 RAID Controller | Promise* Technology PDC20267 ATA/100 IDE RAID controller provides two channels of ATA/100 IDE that can be configured into either RAID level 0 or RAID level 1; maximum data transfer: 100 MB/sec on each ATA/100 channel |
| Intel® PRO/100+ Server Network Connections | Two integrated Intel® PRO/100+ Server Network Connectors (Intel® 82550PM controllers); supports 10BASE-T and 100BASE-TX, RJ45 output |
| Graphics | ATI* Rage* XL SVGA PCI video controller with 2 MB of video memory |
| Super I/O Controller | SMSC LPC47M102 I/O controller |

## Input/Output

| | |
|---|---|
| PCI | Three PCI slots: 32-bit/33MHz |
| IDE | One EIDE channel for a total of two IDE devices |
| USB | Two stacked USB connectors at rear panel, one internal front-panel USB header to provide two USB ports |
| Serial Ports | One external Serial A Port and one internal Serial B Header |
| Floppy Controller | 1.44MB, 2.88MB, 3-mode support |
| Keyboard/Mouse | PS/2, 8240A-compatible |

## Intel® LANDesk® Client Manager[3]

| | |
|---|---|
| Server Monitoring | To monitor temperatures, voltages, and fans |
| Remote Management | Remote access to system status, logs, configuration data, and utilities, without a remote-management card |
| Server Troubleshooting | Event filtering and proactive alerting via LAN |

## Tested Operating Systems

| | |
|---|---|
| Fully Validated | Microsoft* Windows* 2000 Server, Red Hat* Linux* 7.2 |

## System BIOS

| | |
|---|---|
| BIOS Type | 4Mb Flash EEPROM with AMI* BIOS, Multiboot BBS (BIOS Boot Specification) 1.4-compliant |
| Special Features | Plug and Play, IDE drive autoconfigure, SMBIOS 2.3.1, ECC/Parity support, and multilingual support |

## Jumpers and Front-Panel Connectors

| | |
|---|---|
| Jumpers | BIOS configuration |
| Front-Panel Connectors | Power LED, power on/off switch, reset |

## Mechanical

| | |
|---|---|
| Server-Board Style | ATX |
| Server-Board Size | 12" x 8.6" |

## Power Requirements

| | |
|---|---|
| +5V | 7.06 A maximum continuous current |
| +5V Standby | 1.5 A minimum continuous current |
| +12V | 5.0 A maximum continuous current |
| +3.3V | 12.0 A maximum continuous current |
| -5V | 0.00 A maximum continuous current |
| -12V | 0.25 A maximum continuous current |

## Environment

| | |
|---|---|
| Ambient Temperature[4] | Operating (system): 10°C to 35°C; non-operating/storage (system): -40°C to +70°C ambient |
| Relative Humidity | Non-operating: 95%, non-condensing at 30°C |

## Product Regulations (safety compliance)

| | |
|---|---|
| Europe | EN60950; CE Mark-EU Directive 73/23/EEC |
| International | IEC60950 |
| Russia | GOST R 50377-92 (GOST-R Mark) |
| U.S. and Canada | UL/CUL 950-CSA 950 (UL Recognition Mark) |

## EMI Verification (configured in a compatible[5] Intel host system)

| | |
|---|---|
| Australia/New Zealand | Verified to AS/NZS 3548, Class A (C-tick Mark) |
| Canada | Verified to ICES-003, Class A |
| Europe | Verified to EN55022 (Class A) and EN55024 (CE Mark—EU Directive 89/336/EEC) |
| International/Japan | Verified to CISPR-22/VCCI, Class A |
| Korea | RRL Certification to MIC Notices 1997-41 & 1997-42 |
| Russia | Verified to GOSTR 29216-91, GOSTR 50628-95 (GOST-R Mark) |
| Taiwan | Verified to BSMI 13438, Class A (DOC) |
| U.S. | Verified to FCC, Class A |
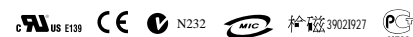
## Recommended Configurations and Order Codes

The following table provides several suggested configurations for pedestal, 1U, and 2U form factors using the Intel® Entry Server Board S845WD1-E. Please visit: www.intel.com/go/serverbuilder for the most recent product updates.

| Item | Pedestal system | 1U system | 2U system |
|---|---|---|---|
| Intel® Entry Server Board S845WD1-E | S845WD1 | S845WD11U | S845WD1 |
| Intel® Server Chassis SC5100[6] | KHD2BASE300 | Reference chassis only[7] | Reference chassis only[7] |
| 5U Rack Kit (optional) | AHD2RACK | — | — |
| Chassis Spares Kit (optional) | FHD2SPRS | — | — |
| Intel® Server RAID Controller SRCU31L[8] | BOXSRCU31LA | BOXSRCU31LA | BOXSRCU31LA |
| Intel® PRO/1000 XT Server Adapter[8] | PWLA8490XT | PWLA8490XT | PWLA8490XT |

[4] Environmental ambient temperature is the system-intake measurement for an Intel® Entry Server Board S845WD1-E installed in an Intel® Server Chassis SC5100.
[5] Compatible host system denotes the system(s) with which Intel tested the board and found it compliant.
[6] Intel® Entry Server Board S845WD1-E is compatible with the Base Configuration of the Intel Server Chassis SC5100 only.
[7] See http://support.intel.com for a complete list of Intel and third-party compatible chassis.
[8] See http://support.intel.com for a complete list of Intel and third-party validated adapters.

## For the most current product information on Intel server building blocks, visit:
## www.intel.com/go/serverbuilder